

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A three-dimensional object manipulating apparatus, comprising:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;

a determination means for determining an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and

an object rotating means for rotating the three-dimensional object on the basis of the result of determination supplied from the determination means;

wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen; and

wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.

2. (Canceled)

3. (Canceled)

4. (Currently amended) A three-dimensional object manipulating apparatus,  
comprising:

a display means for displaying a three-dimensional object on the screen of a  
display unit;

a coordinate detecting means for detecting a coordinate defined on the display  
screen by a user's touch;

a determination means for determining an axis and direction of rotation for the  
three-dimensional object in a predetermined cycle on the basis of the coordinate  
detected by the coordinate detecting means; and

an object rotating means for rotating the three-dimensional object on the basis of  
the result of determination supplied from the determination means ~~The apparatus as set~~  
~~forth in claim 1,~~ wherein the determination means determines an axis and direction of  
rotation for the three-dimensional object on the basis of a positional relation between  
the coordinate detected by the coordinate detecting means and the three-dimensional  
object on the display screen; and

wherein the determination means determines a rotating speed for the three-  
dimensional object on the basis of a distance between the coordinate detected by the  
coordinate detecting means and barycentric coordinate of the three-dimensional object

on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.

5. (Canceled)

6. (Currently amended) A three-dimensional object manipulating apparatus, comprising:

a display means for displaying a three-dimensional object on the screen of a display unit;

a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;

a determination means for determining a moving direction for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means and barycentric coordinate of the three-dimensional object on the display screen; and

an object moving means for moving the three-dimensional object on the basis of the result of determination supplied from the determination means;

wherein the determination means determines a moving speed on the basis of a distance between the coordinate detected by the coordinate detecting means and a barycentric coordinate of the three-dimensional object on the display screen, and the object moving means moves the three-dimensional object at the determined speed.

7. (Canceled)

8. (Previously presented) A three-dimensional object manipulating apparatus, comprising:

- a display means for displaying a three-dimensional object on the screen of a display unit;
- a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch;
- a determination means for determining whether the three-dimensional object is to be scaled up or down in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means; and
- an object scale-up/-down means for scaling up or down the three-dimensional object on the basis of the result of determination supplied from the determination means.

9. (Currently amended) A three-dimensional object manipulating method in which a display unit, data processor and a coordinate detector which detects a coordinate defined on the display screen by a user's touch are used, the method comprising the steps of:

- displaying, under control of the data processor, a three-dimensional object on the display screen;
- determining, under control of the data processor, an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detector; and

rotating, under control of the data processor, the three-dimensional object on the basis of the result of determination;

wherein the data processor determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detector and a central coordinate on the display screen; and

wherein the data processor further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detector and a central coordinate on the display screen, and rotates the three-dimensional object at the determined speed.

10. (Canceled)

11. (Canceled)

12. (Currently amended) A three-dimensional object manipulating method in which a display unit, data processor and a coordinate detector which detects a coordinate defined on the display screen by a user's touch are used, the method comprising the steps of:

displaying, under control of the data processor, a three-dimensional object on the display screen;

determining, under control of the data processor, an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detector; and

rotating, under control of the data processor, the three-dimensional object on the basis of the result of determination;

~~The method as set forth in claim 9,~~ wherein the data processor determines an axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detector and the three-dimensional object on the display screen; and

wherein the data processor further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detector and barycentric coordinate of the three-dimensional object on the display screen, and rotates the three-dimensional object at the determined speed.

13. (Canceled)

14. (Currently amended) A three-dimensional object manipulating method in which a display unit, data processor and a coordinate detector which detects a coordinate defined on the display screen by a user's touch are used, the method comprising the steps of:

displaying, under control of the data processor, a three-dimensional object on the display screen;

determining, under control of the data processor, a moving direction for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detector; and

moving, under control of the data processor, the three-dimensional object on the basis of the result of determination;

wherein the data processor further determines a moving speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detector and barycentric coordinate of the three-dimensional object on the display screen, and moves the three-dimensional object at the determined speed.

15. (Canceled).

16. (Previously presented) A three-dimensional object manipulating method in which a display unit, data processor and a coordinate detector which detects a coordinate defined on the display screen by a user's touch are used, the method comprising the steps of:

displaying, under control of the data processor, a three-dimensional object on the display screen;

determining, under control of the data processor, whether the, three-dimensional object is to be scaled up or down in a predetermined cycle on the basis of the coordinate detected by the coordinate detector; and

scaling up or down, under control of the data processor, the three-dimensional object on the basis of the result of determination.

17. (Currently amended) A computer readable media comprising a computer program allowing a computer to function as:

a display means for displaying a three-dimensional object on the screen of a display unit;

a determination means for determining an axis and direction of rotation for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch; and

an object rotating means for rotating the three-dimensional object on the basis of the result of determination supplied from the determination means;

wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen; and

wherein the determination means further determines a rotating speed for the three-dimensional object on the basis of a distance between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen, and the object rotating means rotates the three-dimensional object at the determined speed.

18. (Currently amended) A computer readable media comprising a computer program allowing a computer to function as:

a display means for displaying a three-dimensional object on the screen of a display unit;

a determination means for determining a moving direction for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by



a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch and barycentric coordinate of the three-dimensional object on the display screen; and

an object moving means for moving the three-dimensional object on the basis of the result of determination supplied from the determination means;

wherein the determination means determines a moving speed on the basis of a distance between the coordinate detected by the coordinate detecting means and barycentric coordinate of the three-dimensional object on the display screen, and the object moving means moves the three-dimensional object at the determined speed.

19. (Currently amended) A computer readable media comprising a computer program allowing a computer to function as:

a display means for displaying a three-dimensional object on the screen of a display unit;

a determination means for determining whether the three-dimensional object is to be scaled up or down in a predetermined cycle on the basis of the coordinate detected by a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch; and

an object scale-up/-down means for scaling up or down the three-dimensional object on the basis of the result of determination supplied from the determination means.